Contamination of Pools from Feces and Vomitus

Pool and spa operators should be aware that fecal matter [stool] or vomitus in the pool poses a potential health risk for all pool users. If contamination should occur, the following is a general guide developed for pool operators by the Washington State Department of Health.

Step 1. Evacuation and Evaluation.

Have bathers leave the area of contamination. In most instances have them get out of the pool. Next, determine if the person who contaminated the pool is sick [person has stomach cramps, fever, flu-like symptoms]. If so, or if the stool is loose, and spread in a large area, or you cannot determine if the person is sick, go to STEP2-B.

Step 2-A Person not sick, material easily picked up

If a pool has been contaminated by stool which may be easily picked up, **OR** the person vomited, is not sick and you think vomited due to gulping water or over exertion;

a. Remove as much of the feces or vomitus as possible. Use of leaf catchers or leaf rakes is helpful

b. Vacuum the remaining visible material.

c. Small material that is floating on the surface and cannot be removed by use of leaf catchers or leaf rakes should be pushed towards the overflow or skimmers until all visible material is removed.

d. Spot disinfect the area of contamination with a small quantity of available disinfectant.

* Add one ounce of calcium hypochlorite [or 4 to 5 ounces of sodium hypochlorite] which has been mixed in a small bucket of water to the affected area.

* Brush the walls and bottom of the pool in the contaminated area.

e. **Wait approximately 30 minutes to** ensure chlorine levels and pH levels meet the minimum requirements outlined by the water recreation facility regulations, especially in the area where chemicals have been added.

f. Backwash the filter.

g. Reopen the Pool.

Step 2-B Person is Ill or Illness is Suspected.

If the pool has been contaminated by loose stool, or vomit and the person is ill, **OR** if you cannot determine if the person is ill you must:

a. Follow all the measures outlined in STEP 2-A a, b, & c above.

b. Swimming pools: raise the chlorine to a minimum maintained free chlorine residual of 5 PPM and let the water recirculate for a minimum of 24 hours. Spas & wading pools: It is recommended that the spa [& small wading pools] be drained, the sides and bottom brushed with 100 PPM chlorine, and the pool refilled and balanced.

c. Backwash the filter

d. REOPEN the POOL

Step 3 Recordkeeping

When incidents of contamination occur show what you did to correct the situation. Maintain this record with your daily operating records. An "Incident Record" section is provided with this guide.

Pool use by Infants: To prevent potential problems, many operators discourage pool use by infants who are not "potty trained". Operators must ensure that when infants are using the pool [or any persons who lack control of urine or fecal discharges from the body] that they wear tight fitting impervious liners [such as tight fitting plastic pants] around diapers to prevent accidental discharge of contamination into the pools.

High Chlorine Dosage Work Sheet

For use after contamination of pool by feces or vomitous
Fill out the incident report and keep it in your log book

CAUTION:

* You are using this worksheet becasue you have determined that a pool user has contaminated the pool and the person has symptoms of illness, i.e. fever, diarrhea, vomiting, etc. OR you have found a loose stool or vomitus in the pool and cannot determine the health of the person responsible.
* Use this sheet only if the pool cannot be closed for 24 hours [see section 2-B b on other side of this guide].
* Be aware that you will be trying to reach a high chlorine residual. After determining the needed chlorine level you should contact your pool equiopment supplier to ensure this level will not have a harmful effect on the pool or equiopment.
* Do not use this sheet unless you are familiar with calculating and reaching high chlorine residuals.
* Do not use this sheet unless you understand how to use your chlorine test kit to accurately read high chlorine residuals.
* Do not use this sheet unless you can quickly lower high free chlorine residuals to less than 6 PPM.

Time and Concentration Calculation:

The formula to determine th eneeded free chlorine concentration is 7,200 divided by T = C. T = time in minutes and C = Concentration of chlorine in PPM> Your first step is to decide how many hours you want the pool to be closed. The longer amount of time you choose, the lower the minimum chlorine level will have to be.

Suppose you want the pool to be closed for 8 hours. Multiply 8 by 60 to determine how many minutes that will be, or 8 hrs X 60 = 480. Divide 7,200 by 480 to find the chlorin level, or 15 PPM. This may be shown as 7,200 divided by [8X60] = 15 PPM of chlorine.

Fill in the balnks in the follwoing to calculate your free chlorine level.

The pool is to be closed for ___ hours. Muliptly hours by 60 = ____ minutes. Dividing the minutes by 7,200 equals _____ PPM of free chlorine. This is the minimum free chlorine level which must be maintained for the maount of time the pool is to be closed.

Amount of Chlorine Needed:

The amount of chlorine needed to achieve to PPM you have determined will depend on [1] the volume of water in your pool [2} the concentration of the chlorine you are using. Read the product inofrmation with the chlorine you are using; or contact your pool equiopment supplier. You might consider using chlorine made for shocking which will dissipate quickly. The pool cannot be opened until the free chlorine level is below 6 PPM.

Bromine pools: Use chlorine to obtain the high dosage.

Contamination Incident Report

Date of Occurance: _____ Material in the pool was: _____. The person responsible: [] had illness symptoms; [] had no illness symptoms, [] could not be found. It was determined to close the pool for ____ hours and the free chlorine level to be maintained was ____.PPM. The amount of chlorine added was ___ [lbs, ounces, quarts] of _____[type of chlorine added].. The pool was closed at ____ []AM;[]PM __/__/__. The pool was reopened at _____ []AM;[]PM on __/__/__. The chlorine level at the time of opening was ____ PPM [pools with a free chlorine level above 6 PPM cannot be opened.]. Signed. _____.